



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

309 feet south from the landing, the latitude of the beginning of the Town must be $42^{\circ} 8' 14''$ N.—The magnetic variation at the Town of Erie when the foregoing observations were made, was $0^{\circ} 43'$ East.

I am, Sir, with respect

Yours, &c.

ANDREW ELLICOTT.

To Mr. Robert Patterson.

Nº. XXVII.

Hints relative to the Stimulant Effects of Camphor upon Vegetables. By BENJAMIN SMITH BARTON, M. D.

Read Sept.
16, 1796.

THE stimulant effects of camphor upon the human and some other animal bodies, are well known: but I have not met with any experiments concerning the influence of this singular substance upon living vegetables. Perhaps, the following loose hints on this subject may not be entirely unworthy of the notice of the Philosophical Society. I shall not fail to pursue the inquiry, at a future period.

On the 25th of last May, I put a piece of the woody stem of the Tulip-tree (*Liriodendron Tulipifera*) with one flower and two leaves, into eight ounces of water, with which I had triturated, for some time, one scruple of good camphor. The branch, which I speak of, was taken out of a pot of water, which contained several other flowers of the same plant, all, to appearance, in the same state. In a short time, I was struck with an unusually lively appearance of the flower in the camphor, whilst the others, although they had the benefit of a larger quantity of water, were sensibly drooping. The appearances exhibited by my invigorated plant were the following:

following: viz. the two leaves became considerably elevated upon their footstalks; the flower expanded more than I had ever seen it in any instance; the stamina, or chives, receded from the pistillum; the three leaves of the calix, or flower-cup, were remarkably reflected back, and became extremely rigid, and elastic. The internal surface of the petals of the flower perspired considerably, though I could not discover a similar perspiration from any of the flowers of the same plant, in the same room, and temperature. I did not perceive any perspiration from the leaves of my camphorated plant.

At the very time of making this experiment, I was engaged in delivering, to my class, lectures on the *Irritability* of vegetables. I, therefore, took an opportunity of shewing to the gentlemen, the plant which I have just mentioned. Although it was not, at this time, so lively as it had been before, they all agreed, that it exhibited remarkable appearances of life, health, and vigour. To me these appearances were very striking. I could not help comparing them to the effects of a certain quantity of ardent spirits, or of opium, upon the human constitution.

My camphorated plant continued in a very invigorated state for two whole days: after which it began to droop. The leaves drooped and decayed sooner than the flower. The other flowers and leaves of the tulip-tree, which were left in simple water, did not live more than half the time of that in water with camphor.

Neither myself nor several other persons were able to discover the least odour of camphor in any part of the branch, except what was immersed in the fluid. This circumstance seems to render it probable, that the camphor was not absorbed by the plant, but that it exerted its remarkable effects entirely through the solids to which it was immediately applied.

I have

I have made several other experiments relative to the effects of camphor upon plants. But I do not think it necessary to be particular as to the individual appearances produced by this substance. In every instance, it was evident, that the camphor acted as a powerful and wholesome stimulant upon the plants. Thus a stalk of yellow Iris, with one expanded flower, was taken out of a vial of water, in which it had been placed, for upwards of a day. The flower had begun to droop. A very few minutes after I had placed it in a vial, of the same size, containing a few grains of camphor, the flower began to revive, and continued in a vigorous state for many hours.

As camphor is but very sparingly soluble in water, it is obvious to conclude, that the stimulant effects which I have observed were produced by a very small part of the quantity which, in my experiments, was triturated with the water.

It is evident, from what I have seen, and related, that camphor exerts a considerable stimulant effect upon plants; greater, I think, than any other substance I am acquainted with. This discovery might induce us to make trials with camphor, as a manure, if it were not certain that the expence of the manure will prevent us from making the experiment upon a large scale. But may we not apply the camphor, in the manner I have mentioned, to useful purposes? A few grains of camphor, acting as a cordial, will revive a drooping plant, will increase its beauty, and prolong its existence. In the eye of the florist, these are objects of no mean importance: why, then, should we not cheerfully lend him our assistance, since in an innocent and amiable pursuit, he robs no one of his happiness, and increases his own?

I have

I have made some experiments with the view to form a comparative estimate of the wholesome stimulating effects of camphor and of nitre upon plants put in water. The result of my experiments favours the idea, that camphor is a more wholesome stimulant than nitre. Unless the dose of this last substance is managed with very great care, it is apt to produce weakness, languor, and death. Even in that hardy evergreen, our Broad-Leaved laurel (*Kalmia latifolia*), I found that a few grains of nitre produced, in a short time, not only a loss of the green colour, but an appearance, which I would compare to that of sphacelus, or mortification, in animals.

N°. XXVIII.

Supplementum Indicis Floræ Lancastriensis. Auctore
 HENRICO MUHLENBERG. Communicated by Dr.
 BARTON.

Read Sept. 7
 16, 1796. } CLASSIS 1.

Callitriche.
 autumnalis.

CLASSIS 2.

Veronica.
 scutellata.

CLASSIS 3.

Schoenus.
 Mariscus.

Cyperus.

spathaceus.
 flavescens.
 esculentus.

Scirpus.

squarrosus.

Eriophorum.

virginicum.

polystachion.

Panicum.

geniculatum. N. S.

rostratum.